

(12) **UK Patent Application** (19) **GB** (11) **2 258 274** (13) **A**
(43) Date of A publication 03.02.1993

(21) Application No. 9215243.8

(22) Date of filing 17.07.1992

(30) Priority data

(31) 03178191

(32) 18.07.1991

(33) JP

(71) Applicant
NSK Ltd

(Incorporated in Japan)

6-3 Ohsaki 1-chome, Shinagawa-ku, Tokyo, Japan

(72) Inventors

Kyozaburo Furumura

Yasuo Murakami

Shinichi Shirota

Shigeru Okita

(74) Agent and/or Address for Service

Gill Jennings & Every

53-64 Chancery Lane, London, WC2A 1HN,
United Kingdom

(51) INT CL⁵

F16C 33/30

(52) UK CL (Edition L)

F2A AD38 A111 A170 A171

(56) Documents cited

GB 2244103 A

US 4930909 A

US 4904094 A

(58) Field of search

UK CL (Edition K) F2A AD38 AD54 AD56 AD66

INT CL⁵ F16C

(54) Rolling bearing

(57) In a rolling bearing, at least one of the races and rolling members is made of an alloy steel that has a residual austenite content (γ_R) of 20-45 vol% and which contains 1-3 wt% Cr, and Mo in an amount ranging from one third of the Cr addition to 2.0 wt%, with the carburized or carbonitrided rolling surface having the following range of Vickers hardness (H_V) in relation to the residual austenite content:

$$-4.7 \times (\gamma_R \text{ vol\%}) + 920 \leq H_V \leq -4.7 \times (\gamma_R \text{ vol\%}) + 1,020$$

The rolling surfaces contain fine-grained carbides and carbonitrides of average particle size 0.5-1.5 μ m, and occupying 10-30% by area.